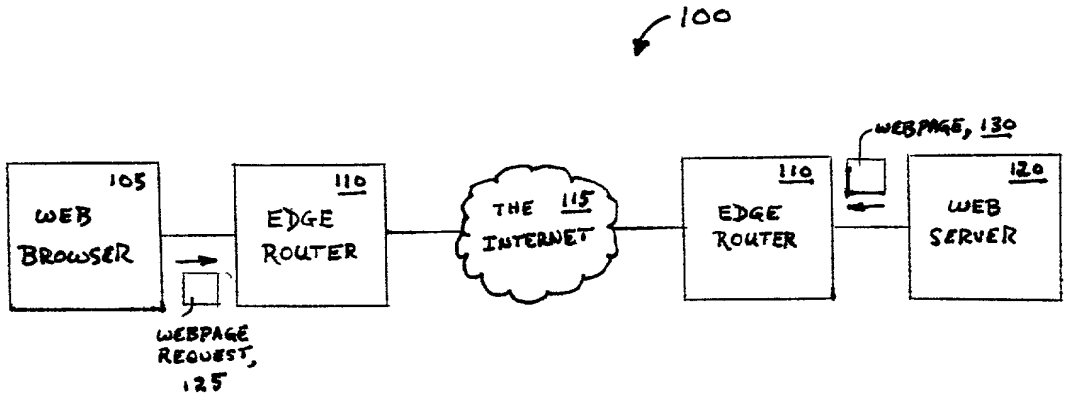
100
105
WEB BROWSER
110
EDGE ROUTER
THE 115 INTERNET
110
EDGE ROUTER
WEBPAGE, 130
120
WEB SERVER
WEBPAGE REQUEST, 125

FIG. 1

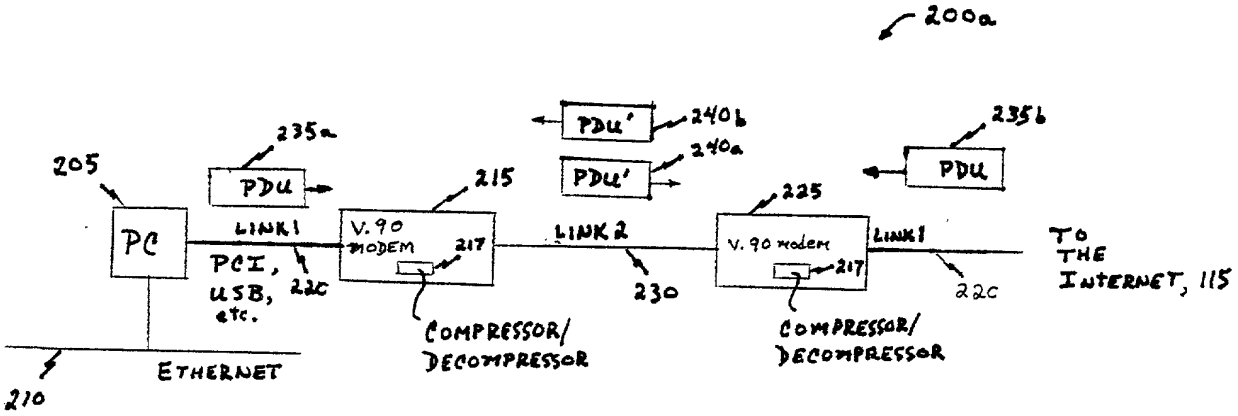
200a
205
235a
PDU
PC
LINK1
PCI, USB, etc.
220
V.90 MODEM
215
217
PDU'
240b
PDU'
240a
LINK2
230
V.90 modem
225
217
235b
PDU
LINK1
220
TO THE INTERNET, 115
ETHERNET
210
COMPRESSOR/ DECOMPRESSOR
COMPRESSOR/ DECOMPRESSOR

FIG. 2A

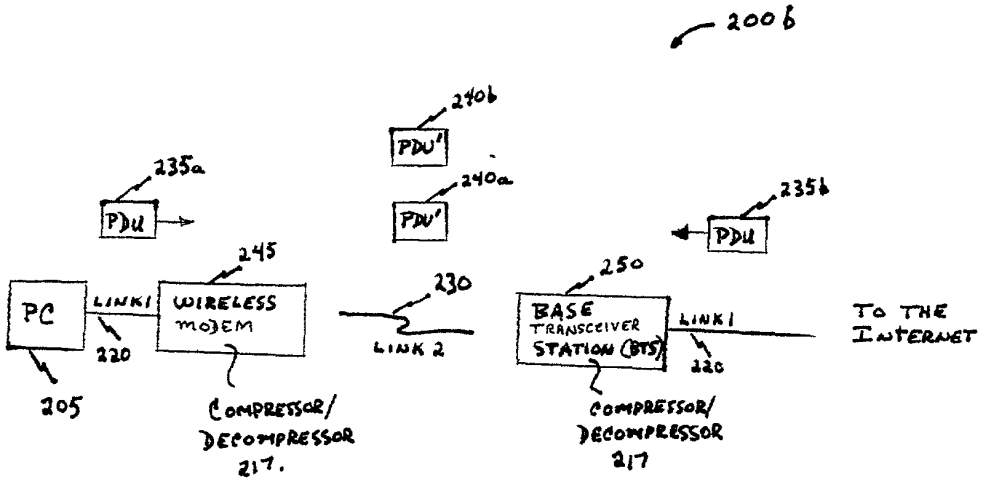
200b
240b
PDU'
240a
PDU'
235a
PDU
235b
PDU
245
230
250
PC
LINK1
WIRELESS MODEM
LINK 2
BASE TRANSCEIVER STATION (BTS)
LINK1
TO THE INTERNET
220
220
205
COMPRESSOR/ DECOMPRESSOR 217.
COMPRESSOR/ DECOMPRESSOR 217

FIG. 2B

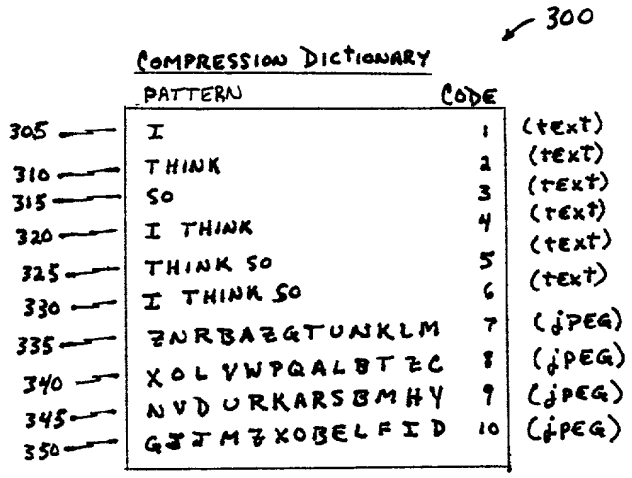
300
COMPRESSION DICTIONARY
PATTERN
CODE
305
I
1
(text)
310
THINK
2
(text)
315
SO
3
(text)
320
I THINK
4
(text)
325
THINK SO
5
(text)
330
I THINK SO
6
(text)
335
7
(jPEG)
340
8
(jPEG)
345
9
(jPEG)
350
10
(jPEG)

FIG. 3

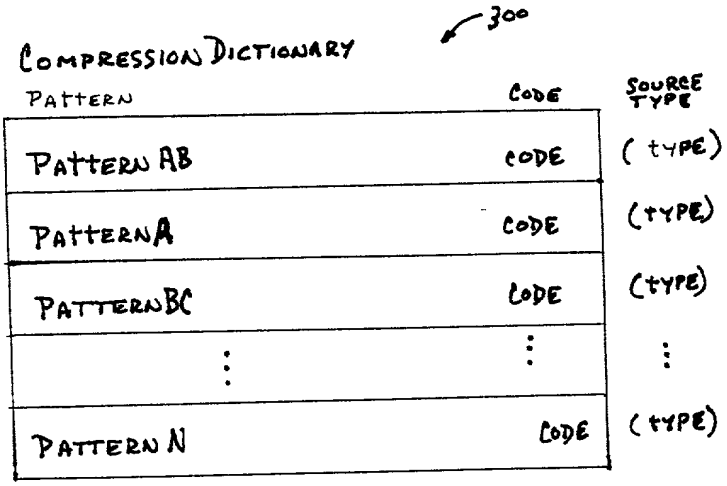
300
COMPRESSION DICTIONARY
PATTERN
CODE
SOURCE TYPE
PATTERN AB
CODE
(TYPE)
PATTERN A
CODE
(TYPE)
PATTERN BC
CODE
(TYPE)
PATTERN N
CODE
(TYPE)

FIG. 4A

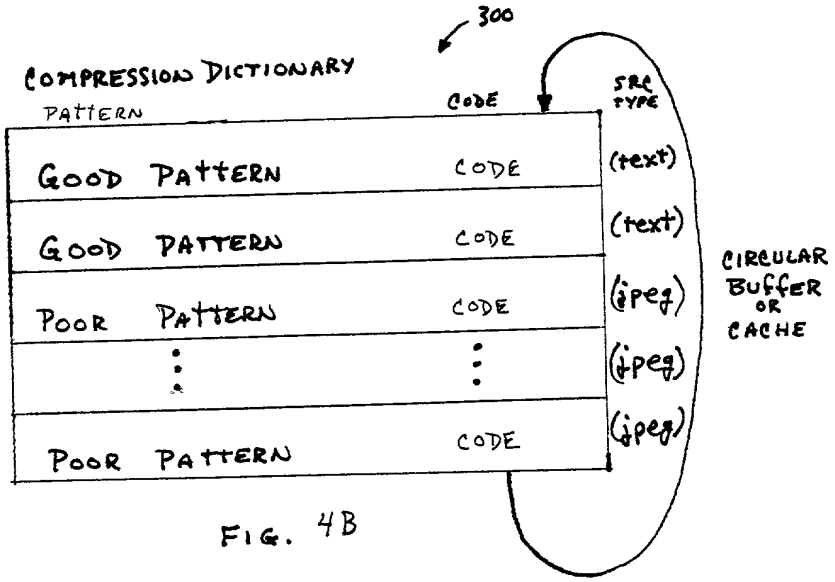
300
COMPRESSION DICTIONARY
PATTERN
CODE
SRC TYPE
GOOD PATTERN
CODE
(text)
GOOD PATTERN
CODE
(text)
POOR PATTERN
CODE
(jpeg)
(jpeg)
POOR PATTERN
CODE
(jpeg)
CIRCULAR BUFFER OR CACHE

FIG. 4B

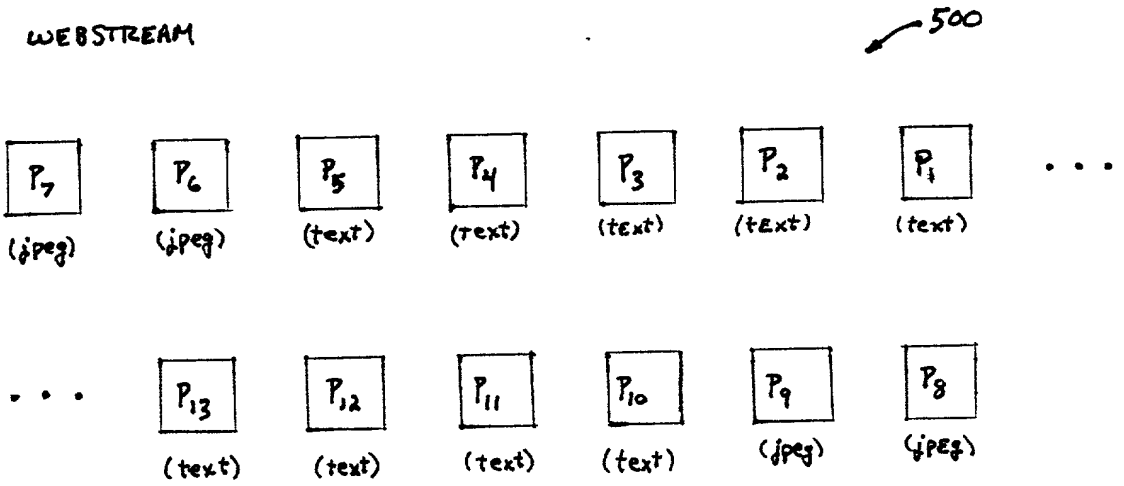
WEBSTREAM
500
P7 (jpeg)
P6 (jpeg)
P5 (text)
P4 (text)
P3 (text)
P2 (text)
P1 (text)
P13 (text)
P12 (text)
P11 (text)
P10 (text)
P9 (jpeg)
P8 (jpeg)

FIG. 5A

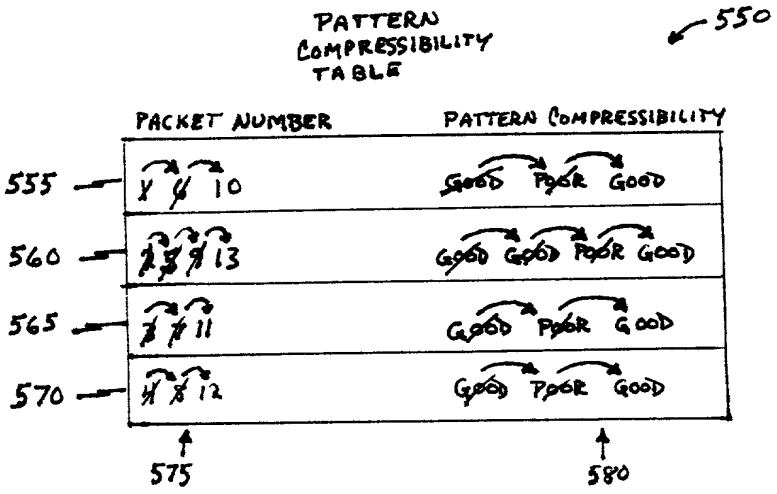

FIG. 5B

Docket No. 2479.1078-000

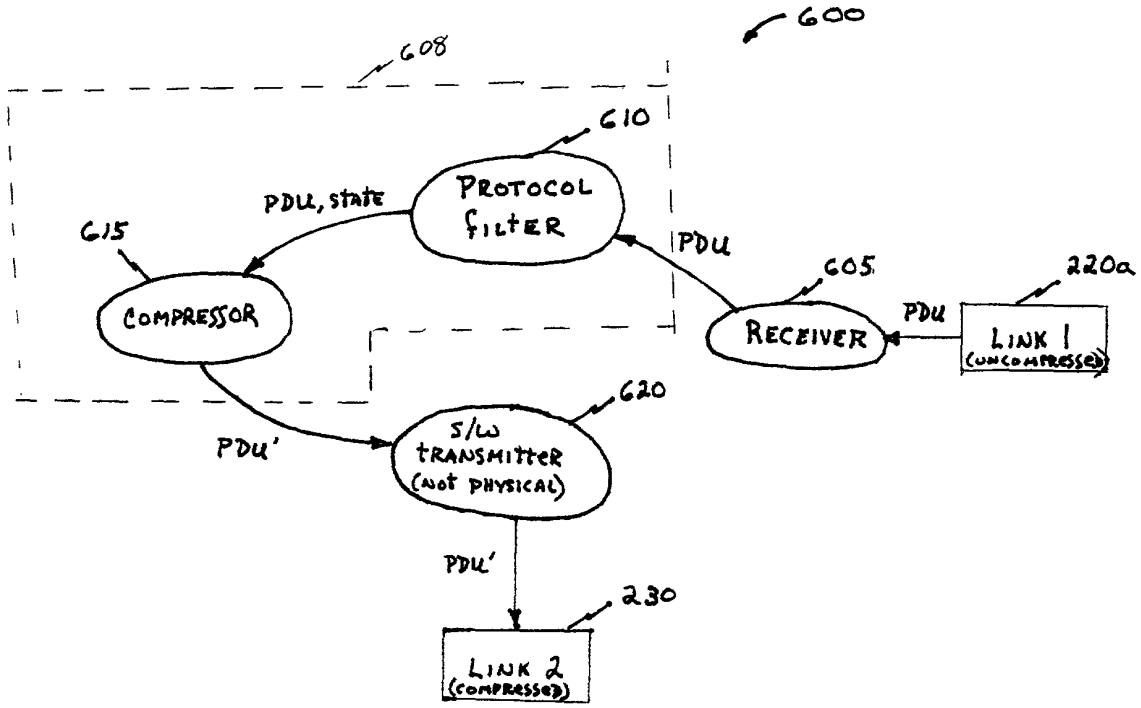
600
608
610
PROTOCOL FILTER
PDU, state
615
COMPRESSOR
PDU
605
RECEIVER
220a
PDU
LINK 1 (UNCOMPRESSED)
620
S/W TRANSMITTER (NOT PHYSICAL)
PDU'
PDU'
230
LINK 2 (COMPRESSED)

FIG. 6A

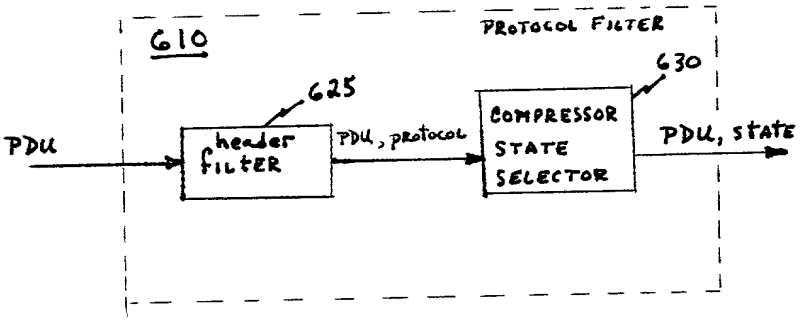
610
PROTOCOL FILTER
625
630
PDU
header filter
PDU, protocol
COMPRESSOR STATE SELECTOR
PDU, STATE

FIG. 6B

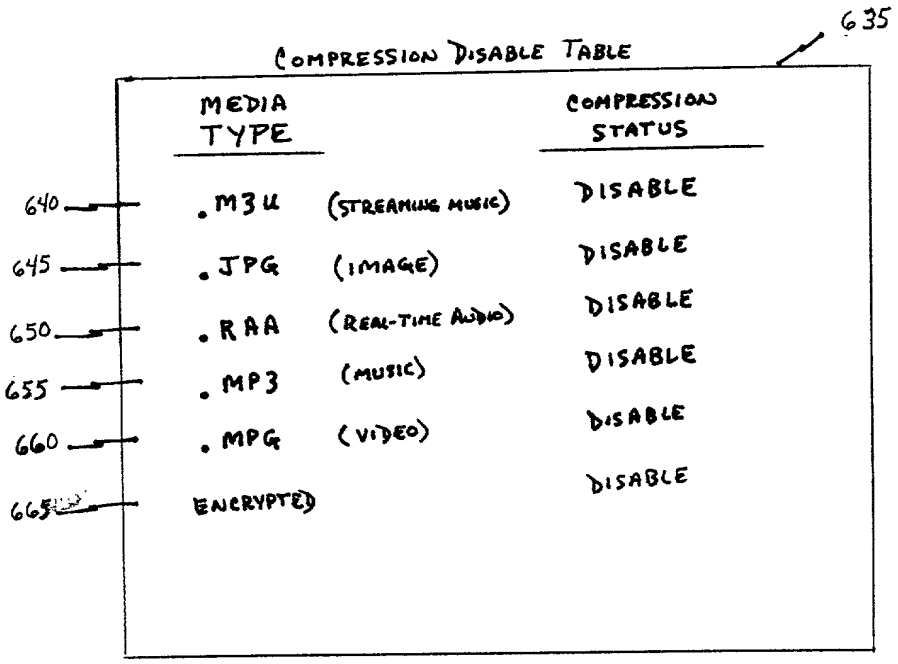

FIG. 6C

Attorney Docket No.: 2479.1078-000

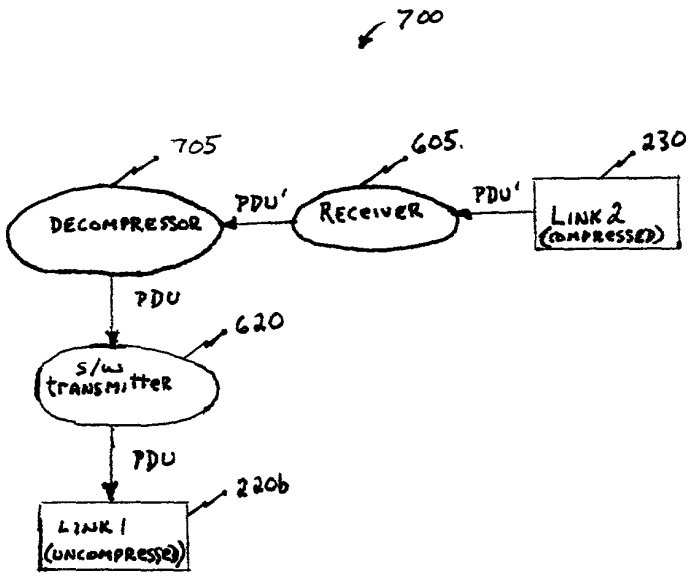
700
705
605
230
DECOMPRESSOR
PDU'
RECEIVER
PDU'
LINK 2
(COMPRESSED)
PDU
620
S/W
TRANSMITTER
PDU
220b
LINK 1
(UNCOMPRESSED)

FIG 7

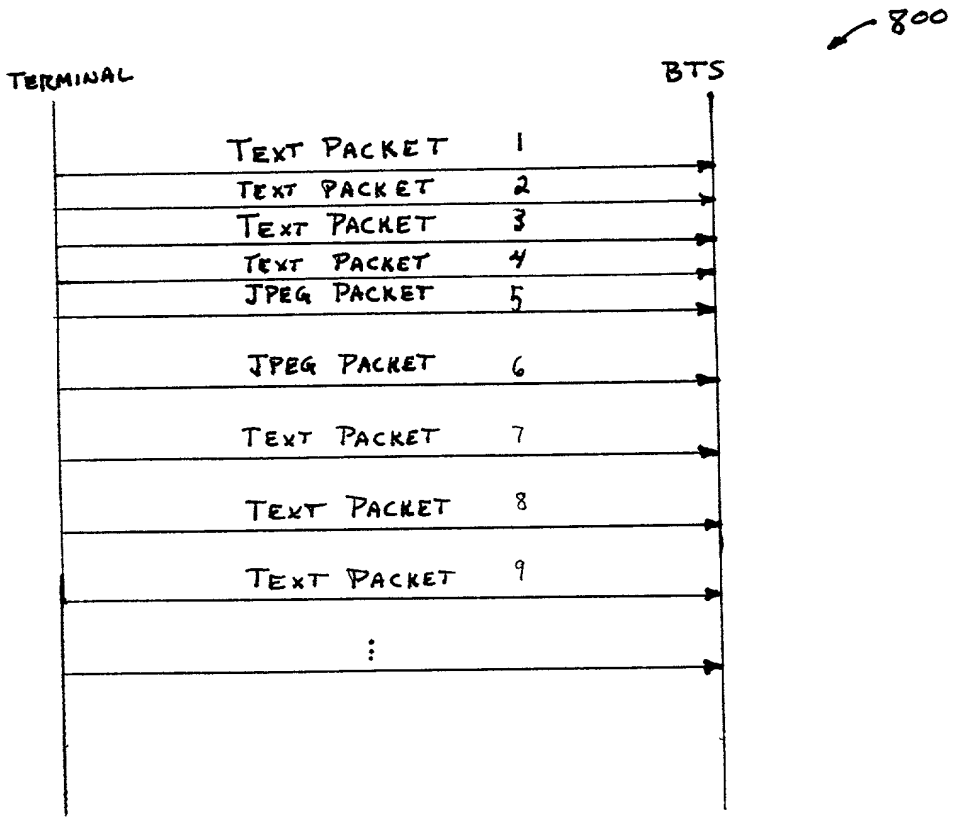
800
TERMINAL
BTS
TEXT PACKET 1
TEXT PACKET 2
TEXT PACKET 3
TEXT PACKET 4
JPEG PACKET 5
JPEG PACKET 6
TEXT PACKET 7
TEXT PACKET 8
TEXT PACKET 9

FIG. 8A

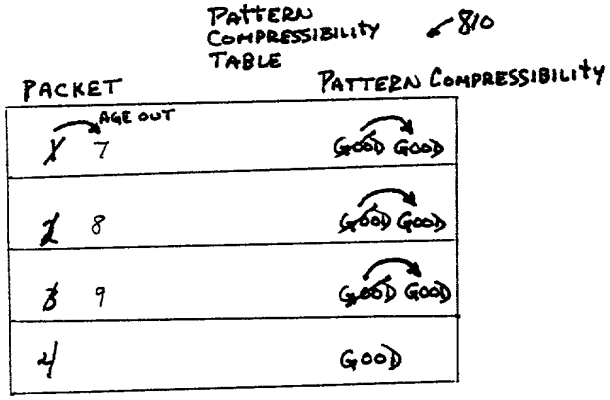
PATTERN COMPRESSIBILITY TABLE
810
PACKET
PATTERN COMPRESSIBILITY
AGE OUT
7
8
9
GOOD GOOD
GOOD GOOD
GOOD GOOD
GOOD

FIG. 8C

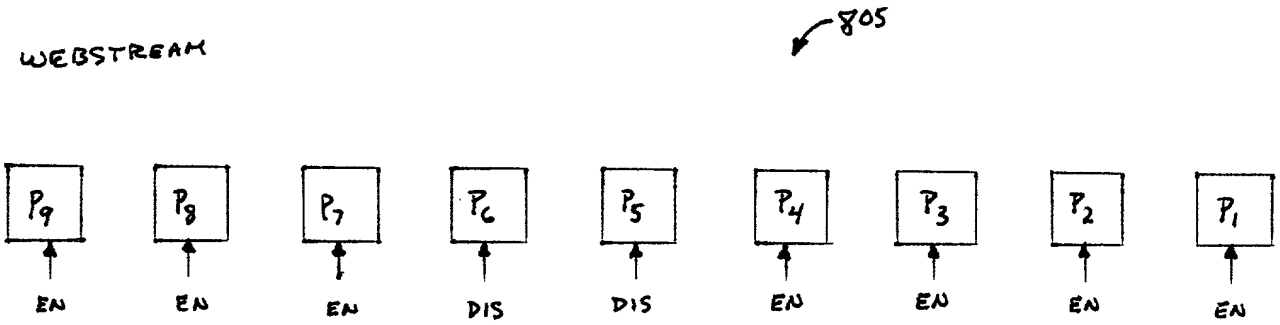

FIG. 8B

Patent Application Serial No. 09/754,938

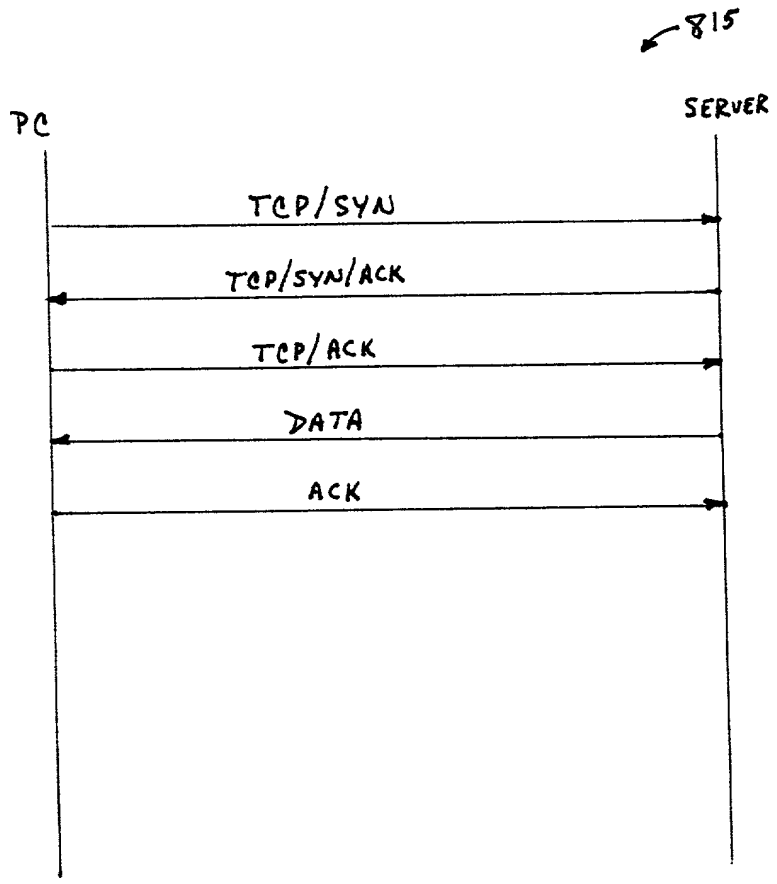

Fig. 8D

Attorney Docket No. 2479.1078-000

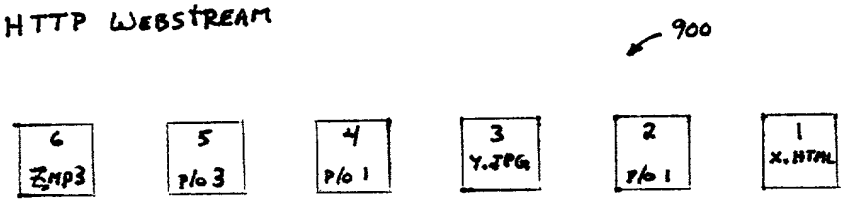
HTTP WEBSTREAM
900
6
ZMP3
5
P/O 3
4
P/O 1
3
Y.JPG
2
P/O 1
1
X.HTML

FIG. 9A

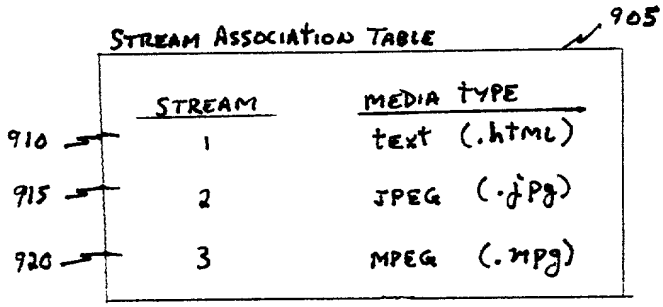
STREAM ASSOCIATION TABLE
905
STREAM
MEDIA TYPE
910
1
text (.html)
915
2
JPEG (.jpg)
920
3
MPEG (.mpg)

FIG. 9B

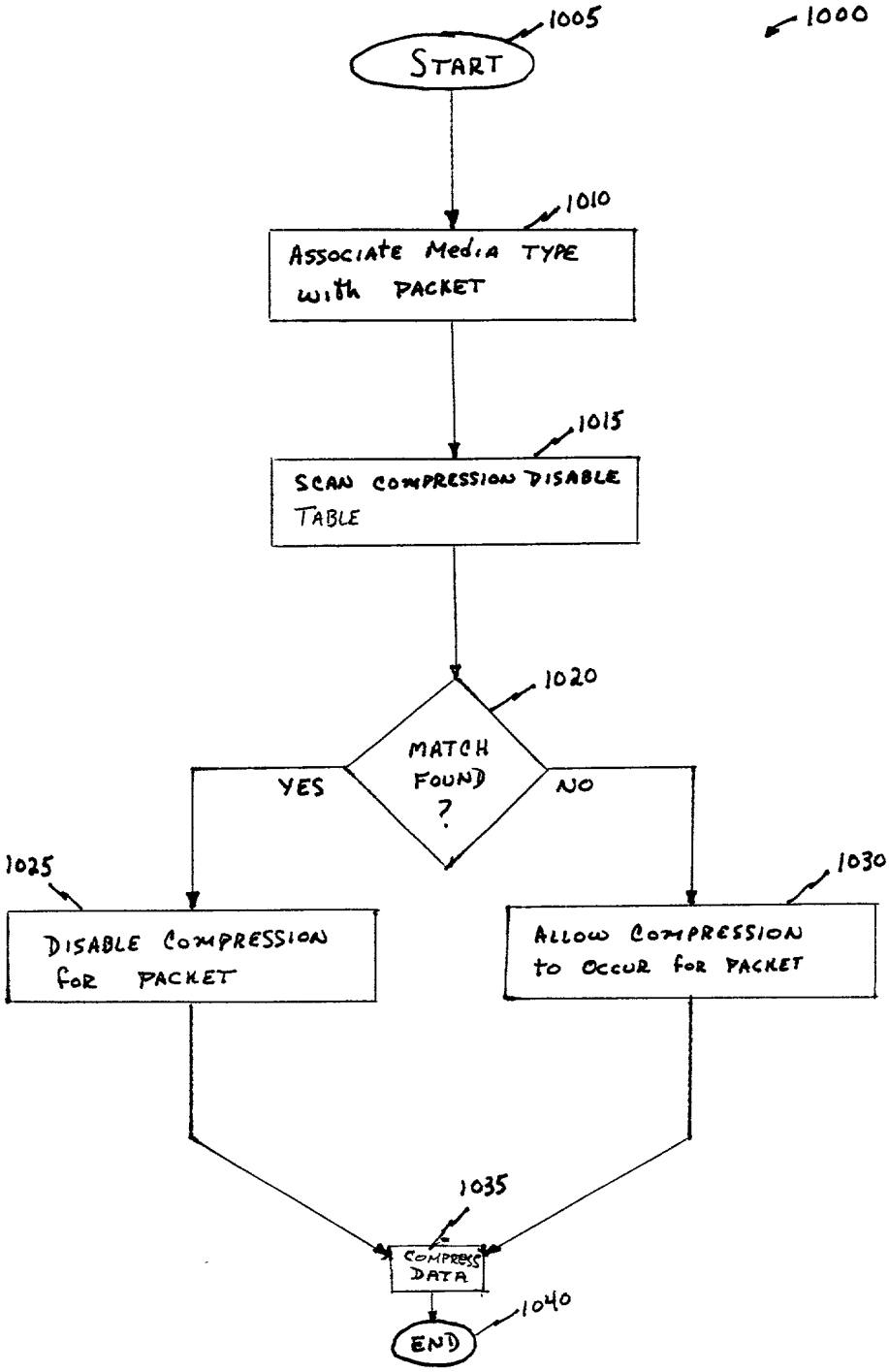

FIG. 10

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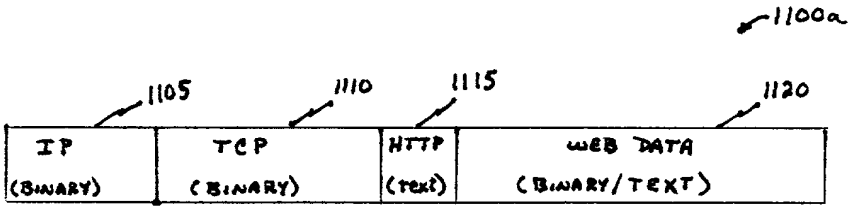
1100a
1105
1110
1115
1120
IP
(BINARY)
TCP
(BINARY)
HTTP
(text)
WEB DATA
(BINARY/TEXT)

FIG. 11A

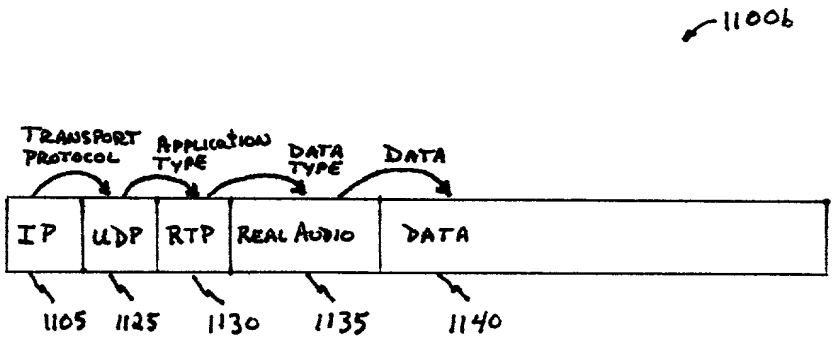

FIG. 11B

Date: 10/6/2004 Time: 5:15:27 PM

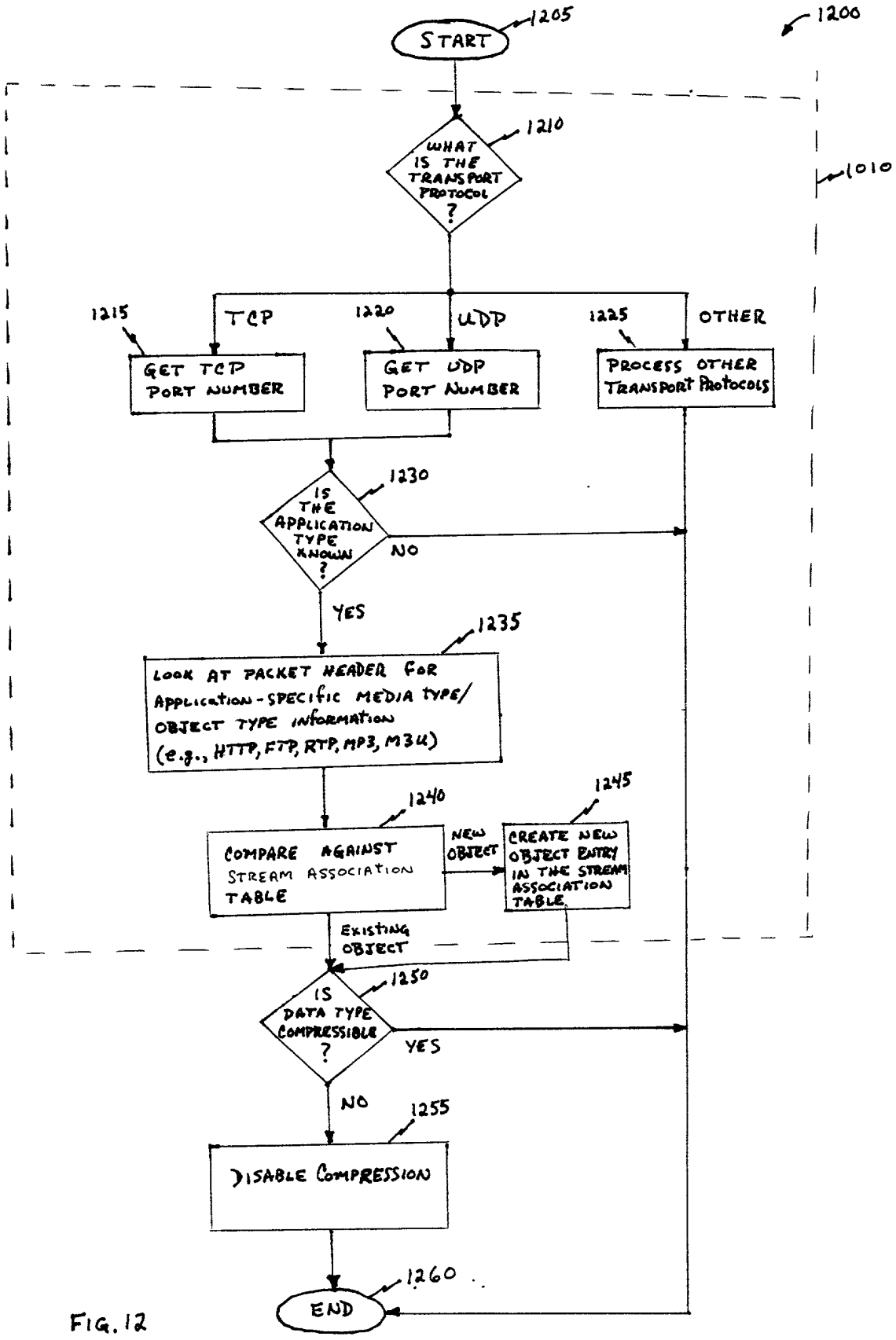
1200
START
1205
WHAT IS THE TRANSPORT PROTOCOL ?
1210
1010
TCP
UDP
OTHER
1215
1220
1225
GET TCP PORT NUMBER
GET UDP PORT NUMBER
PROCESS OTHER TRANSPORT PROTOCOLS
IS THE APPLICATION TYPE KNOWN ?
1230
NO
YES
LOOK AT PACKET HEADER FOR APPLICATION-SPECIFIC MEDIA TYPE/ OBJECT TYPE INFORMATION (e.g., HTTP, FTP, RTP, MP3, M3U)
1235
COMPARE AGAINST STREAM ASSOCIATION TABLE
1240
NEW OBJECT
CREATE NEW OBJECT ENTRY IN THE STREAM ASSOCIATION TABLE
1245
EXISTING OBJECT
IS DATA TYPE COMPRESSIBLE ?
1250
YES
NO
DISABLE COMPRESSION
1255
END
1260

FIG. 12